19. (Amended) The computer-readable medium of claim 18, wherein the instructions for adjusting the access tree structure include instructions for setting a fast access tree to refer to a first of the plurality of linked-lists.

22. (Amended) The computer-readable medium of claim 18, wherein the instructions for adjusting the access tree structure include instructions for setting a general access tree to refer to a second of the plurality of linked-lists

24. (New) The method of claim 1, wherein receiving, returning, and adjusting are performed in a user space of the memory.

REMARKS

In the Office Action dated April 8, 2003, the Examiner rejected claims 1-5 and 7-23 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,864,867 to Krusche et al. (Krusche).

In this Office Action, Applicants amend claims 1-5, 7, 8-10, 13, 17, 18, 19, and 22, and add new claim 24. Claims 1-5 and 7-24 are currently pending for examination. The amendments to the claims with markings relative to the filed claims are shown in the Appendix.

Amended claim 1 recites a combination of elements including, among other things:

adjusting an access tree structure of the memory allocation function based on the memory request.

Krusche discloses "a memory management system . . . using a static tree management structure (RIT) for the free memory." See Abstract. For example, Krusche states:

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As a result of the static fashioning of the tree structure, error-conditioned modifications of the tree structure during operation of the real-time system are precluded.

See col. 2, lines 55-60. Further, <u>Krusche</u> discloses:

FIG. 6 again shows the first access structure, namely a statically pre-performed binary tree sorted according to lengths whose leaves represent the entry points in the chains of free blocks of identical size.

See col. 9, lines 25-28. <u>Krusche</u> does not disclose "adjusting an access tree structure . . . based on the memory request," as recited in claim 1.

In order to anticipate a claim, a reference must disclose each and every element of the claim. <u>Krusche</u> fails to disclose each and every element of claim 1, and therefore cannot anticipate the claim. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claim 1 under § 102(b).

Claims 2-5 depend on claim 1 and include all the limitations thereof. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-5 under § 102(b).

Although amended claims 7, 8, and 17 are of different scope than each other and different scope than claim 1, they all contain recitations similar to that quoted above from claim 1. For example, claim 7 recites a combination of elements including, among other things, "means for adjusting an access tree structure of a memory access function based on the memory request." Claim 8 recites a combination of elements including, among other things, "a program including a memory access function that provides access to memory and that adjusts an access tree structure according to a memory

request for a reference to a block of memory." Finally, claim 17 recites a combination of elements including, among other things, "adjusting an access tree structure of the memory allocation function based on the memory request." Krusche fails to disclose these limitations of claims 7, 8, and 17.

Thus, Krusche fails to anticipate claims 7, 8, and 17 for at least the same reason as claim 1 above. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 7, 8, and 17 under § 102(b).
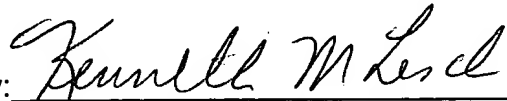
Claims 9-16 depend on claim 8 and include all the limitations thereof. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 9-16 under § 102(b). Claims 18-23 depend on claim 17 and include all the limitations thereof. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 18-23 under § 102(b).

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

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Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Dated: July 8, 2003   By: _Kennith M Lesch_

Kenneth M. Lesch
Reg. No. 44,868

APPENDIX

Please amend claims 1-5, 7, 8, 10, 13, 17, 18, 19, and 22 as follows:

1. (Amended) A method in a data processing system for allocating memory by a memory allocation function, comprising [the steps defined by the memory allocation function of]:

receiving a memory request for a reference to a block of memory;

returning the reference to the block of memory to satisfy the request; and

adjusting [an operation] an access tree structure of the memory allocation function based on the memory request.

2. (Amended) The method of claim 1, further including [the step of] forming a plurality of linked-lists referring to memory blocks of a common size.

3. (Amended) The method of claim 2, wherein [the step of returning] adjusting the access tree structure includes [the step of] setting a fast access tree to refer to a first of the plurality of linked-lists.

4. (Amended) The method of claim 3, further including [a step of] ensuring that the fast access tree refers to one of the plurality of linked-lists that is most frequently requested.

5. (Amended) The method of claim 2, wherein [the step of returning] adjusting the access tree structure includes [the step of] setting a general access tree to refer to a second of the plurality of linked-lists.

7. (Amended) A system for allocating memory, comprising:

means for receiving a memory request for a reference to a block of memory;

means for returning the reference to the block of memory to satisfy the request; and

means for adjusting [an operation] <u>an access tree structure</u> of a memory access function based on the memory request.

8. (Amended) A data processing system for providing access to memory, comprising:

a memory including:

<u>an access tree structure;</u>

a program including a memory access function that provides access to <u>the</u> memory and that adjusts [its operation] <u>the access tree structure</u> according to a memory request for a reference to a block of <u>the</u> memory; and

a processor for executing the program.

9. (Amended) The data processing system of claim 8, further including an operating system with a system memory function, and wherein the memory access function provides access to <u>the</u> memory by utilizing the system memory function.

10. (Amended) The data processing system of claim 8, <u>wherein the access tree structure comprises a fast access tree and</u> wherein the memory access function includes a plurality of linked-lists referred to by [a] <u>the</u> fast access tree.

13. (Amended) The data processing system of claim 8, <u>wherein the access tree structure comprises a general access tree and</u> wherein the memory access function includes a plurality of linked-lists referred to by [a] <u>the</u> general access tree.

17. (Amended) A computer-readable medium including instructions for performing a method for allocating memory by a memory allocation function, the method comprising [the steps performed by the memory allocation function of]:

receiving a memory request for a reference to a block of memory;

returning the reference to the block of memory to satisfy the request; and

adjusting an [operation] access tree structure of the memory allocation function based on the memory request.

18. (Amended) The computer-readable medium of claim [15] 17, further including instructions for forming a plurality of linked-lists referring to memory blocks of a common size.

19. (Amended) The computer-readable medium of claim 18, wherein the instructions for [returning] adjusting the access tree structure include instructions for setting a fast access tree to refer to a first of the plurality of linked-lists.

22. (Amended) The computer-readable medium of claim 18, wherein the instructions for [returning] adjusting the access tree structure include instructions for setting a general access tree to refer to a second of the plurality of linked-lists